The Week In Engineering and Construction

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Contractors assert ability to handle postwar program

Potential capacity of the construction industry to handle postwar programs is chief item discussed at the Associated General Contractors annual meeting.

No fear is held by the construction industry as to its ability to quickly absorb any postwar construction programs that may be authorized. This was the consensus of the Associated General Contractors of America, at its 25th annual meeting, held in Chicago on Feb. 7-9. Although wartime demands have drastically reduced the amount of equipment on hand, the industry contends that sufficient construction machinery can and will be produced in ever increasing quantities as the war nears a successful conclusion to enable peacetime construction getting under way at a fast pace and continuing with a high level of employment and production.

Construction capacity questioned

If any of the assembled contractors expected Thomas H. MacDonald, Commissioner of Public Roads, to merely report that a huge highway construction program was blueprinted and ready for the signal to go, they were disappointed. First, he told them that sufficient progress is not being made in preparing roadbuilding plans, and second, he questioned the ability of the construction industry to absorb such a program quickly, and place it underway immediately following demobilization day.

With hearings on national highway legislation (HR 2426) scheduled to start Feb. 29, Commissioner MacDonald pointed out that it behooves the construction industry to be in a position to place before Congress realistic estimates of the size of the highway construction program which it can be prepared to undertake when the war ends, and the time rate at which such a program could be placed under actual construction. In support of this statement he called attention to the small amount of highway work that is now ready to be let to contractors (*ENR* Jan. 27, Vol. p. 120). The remainder of his talk related to the postwar highway program, as reported in these pages following his talks before the Highway Research Board, the American Association of State Highway officials and the American Society of Civil Engineers.

The assembled contractors gave little support to Mr. MacDonald's view that after the war there may be an inadequate amount of construction equipment or a lack of contracting organizations to successfully perform all postwar highway construction projected by the state and federal agencies. Although large amounts of construction equipment have "gone to war", that remaining in this country, together with what can be produced quickly and in large quantities by our greatly expanded manufacturing plants which require virtually no conversion from war to peacetime production, will assure plenty of roadbuilding equipment on hand when the time comes.

The large amount of concrete paving laid down for airports alone, during the past few years, is a fair indication of the construction industry's capacity for peacetime activity in the field of highway concrete pavement, according to

(*Continued on page 4*)

Bowers, ENR editor, goes to see the Seabees

Continuing its practice of reporting war construction where it happens, *Engineering News-Record* now turns its attention to the Navy Seabees. Nathan A. Bowers, Pacific Coast editor of *ENR*, and an accredited Navy war correspondent, has arrived in Pearl Harbor, and his first dispatch appears on p. 3 of this issue. Others will follow as he continues an extensive trip of island hopping, scheduled to take him wherever Seabees may be found.

Nathan A. Bowers

Nate Bowers is a veteran member of the editorial staff of *Engineering News-Record*. Joining the old *Engineering Record* in 1910, he spent two years in the New York office, and was then transferred to the Pacific Coast, where he has remained ever since, covering every type of civil engineering and construction activity that this great and growing territory has so abundantly offered.

A civil engineering graduate of Rose Polytechnic Institute in Indiana, he has also received the degree of Doctor of Philosophy from Stanford University, the first civil engineer so honored by that institution. The title of his thesis was "Engineering Failures in the Water Power Field," and two years later he was to report the great St. Francis Dam failure for *ENR*, one of the notable pieces of editorial work of current times; not only was the reporting accurate, but the conclusions as to cause of the failure that he advanced were substantially the same as those of the subsequent examining boards.

Mr. Bowers has served as president of

the Engineers Club of San Francisco, and as president of the San Francisco section of the American Society of Civil Engineers. He is a licensed radio operator and a licensed airplane pilot. In addition to being Pacific Coast editor of *Engineering News-Record*, he has also served other McGraw-Hill papers on the Coast, and from 1930 to 1934 was general manager of the McGraw-Hill Co. of California.

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Army and Navy extend facilities on both coasts

Arrangements have been made for expanding the shipping facilities and backup storage, including magazines, now being constructed by the Navy in northern New Jersey, and for the joint use of these facilities by the Navy and the Army.

The additional work involved calls for the expenditure of substantially more than $10,000,000. The Bureau of Yards and Docks of the Navy will construct additional berthing space for ships and additional shore installation immediately adjacent to the existing Naval Depot and will turn part of them over to the Army. The Corps of Engineers of the Army will do the considerable dredging necessary in the ship channels, probably with its own forces. The projected construction will be done under extensions of existing contracts and as new work.

The Navy plans an ordnance depot south of Long Beach in southern California at a cost of $15,000,000. It will be similar to the northern New Jersey project of the Navy, with permanent barracks, munitions magazines and extensive warehouses. A deep water harbor with piers, wharves and deep water docks are part of the projects. This project will be supervised by the Navy's officer in charge of construction at Roosevelt Base, Terminal Island, Los Angeles. Leeds, Hill, Barnard & Jewett are the engineers and Graham, Anderson, Probst and White are the architects.

Six warehouses, each 200 x 980 feet and an administration building, probably of permanent-type construction, are included in plans being completed by Koebig & Koebig, engineers, for a group of buildings to be erected at the Army Air Force Depot at Maywood, Calif., in the Los Angeles area, at an estimated cost of $2,000,000.

Robert Moses of N. Y. urges public works aid

In testimony prepared for the Congressional Committee on Public Buildings and Grounds, Robert Moses, park commissioner of New York city, recommends that the federal government provide grants of as much as 50 percent of the cost of financing purely local postwar improvements. Mr. Moses bases his recommendation upon "the assumption that there will be serious postwar unemployment for a period of about two years unless drastic steps are taken now to prevent it." With such federal aid as he suggests, he believes it is possible to carry out 15 billion dollars' worth of work over a period of about two years, supplying employment at the peak of such a program for some 5 million on-the-site workers.

Commissioner Moses estimates that the demand for employment on public works will begin immediately after the European war ends, gradually increasing to a peak after the end of the war in the Pacific.

Although granting that industry can take up a good deal of the slack in government war spending, he does not believe that it can carry the load alone in the two years following the war.

In support of his recommendation for federal grants-in-aid, Commissioner Moses states, "There is not a state, city or municipal subdivision in the country which can finance an adequate postwar construction program sufficient to make a real dent in the employment problem without further assistance."

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Defense Homes Corp. will sell war housing

In the first move by the federal government to dispose of war housing, the Defense Homes Corporation is ready to consider offers to purchase any of 25 projects representing a total investment of more than $71,000,000, Herbert Emmerich, president of the corporation and Commissioner of the Federal Public Housing Authority, announced in Washington Jan. 26.

Offers to purchase will be considered if price and terms of payment are satisfactory to the corporation and there is agreement to confine occupancy during the war to war workers in accordance with housing policies of the National Housing Agency where there is wa need.

This move, Commissioner Emmerich said, is made to take the government out of a war emergency enterprise that is comparable to private endeavor in the character of its properties and management in contrast to other public housing.

Incorporated in 1940 to build urgently needed defense housing as a supplement to that being built privately, the corporation has projects available for sale in 13 states and the Washington, D. C., area containing a total of 2,811 houses, 5,617 apartments and accommodations for 2,624 single men and women.

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Benjamin F. Affleck dies, father of concrete roads

Benjamin Franklin Affleck, 74, often called the father of concrete roads in this country, died Feb. 13 in Winnetka, Ill. He had been associated with the cement industry since 1901, when he became branch manager of the cement department of the old Illinois Steel Co.

Born at Belleville, Ill., Mr. Affleck left school at 16 to become a machinist. In 1896 he joined Illinois Steel Co., now Carnegie-Illinois, and became interested in cement manufacturing. When the Universal Portland Cement Co. was organized as a separate company in 1906 he was made general sales manager, and became president in 1915. When that company merged with the Atlas Portland Cement Co. to form the Universal Atlas Cement Co. he was named president, serving in that capacity until 1936, when he retired from active duty but remained as a director.

Mr. Affleck was a pioneer booster for concrete. He was chairman of the National Conference on Concrete Roads in Chicago in 1914, and served as president of the Portland Cement Association from 1916 to 1920. Engineering and construction held his interest up to the time of his death. Mr. Affleck found time to take part in Chicago civic life, being one of the three men who put the Chicago Regional Planning Association on its feet.

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Postwar schedule drawn for N. Y. C. public works

New York City, having made substantial progress in preparing designs for postwar public works, has now turned some of its attention to the timing of the start of actual construction. As a first step a committee composed of Robert Moses, commissioner of parks, Irving V. A. Huie, commissioner of public works, and John C. Riedel, chief engineer, Board of Estimate, has drawn up a tentative schedule and has recommended to the mayor that it be adopted, and then "kept up to date".

The schedule is necessarily based on a number of assumptions, among which are that the federal government will contribute 50 percent to the cost of most of the projects; that the state will contribute half of the cost of state-city projects; that there will be no shortage of construction materials nor of contractors' equipment; that prevailing wage rates will be paid; and that there will be two shifts of skilled workers working approximately 11 days a month and one shift of unskilled workers working 22 days a month.

It was recognized that the schedule should be flexible enough to be changed readily according to need. However, as presently drawn, it assumes a gradual increase in public-works employment beginning six months after the European war ends. The rate would then increase sharply for six months, until 200,000 on-the-site workers would be employed. Six months later a sharp reduction in this labor force would begin, until at the end of the third year after the European war ends, (second year after Jap war) only 20,000 workers would be employed on New York City public works construction, industry then having taken up the remainder. The estimated 200,000-man peak is about 40,000 less than the work relief peak in the depression.

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Metropolitan commission suggested for Toronto

A metropolitan commission to deal with major problems affecting all municipalities in the vicinity of Toronto, Ont., and a regional planning organization are suggested in the second annual report of the Toronto City Planning Board to the city council. In the report is presented a complete master plan for the progressive development of the city over the next thirty years.

The board was assisted by a technical advisory board of engineers and architects, both boards being voluntary. The total budget for the board for the year was $18,000.

ENGINEERING ABROAD AS SEEN BY ENR EDITORS

"By Surface to Pearl"

Nathan A. Bowers

Pacific Coast Editor, Engineering News-Record

PEARL HARBOR, Feb. 6—Things that fly must first creep. Perhaps it was fitting that on the first lap of what is expected to be a long air-sweep out over the Pacific theaters, we crept all of the 2,100 miles to Pearl Harbor by "surface", which is Navy terminology for travel by steamer instead of by air or by submarine. This great American base is full of things that every engineer and construction man should know, and some of them, I am promised, I shall be permitted to describe. But first there is that trip out here, unlike that which many Seabees have experienced in getting to "Pearl".

One soon gets used to the Navy's short-form terms; they're convenient and save time. "Pearl", of course, is vernacular for Pearl Harbor. "Cincpac" means Commander-in-Chief, United States Pacific Fleet, to whose staff I have the good fortune to be accredited. "Budocks" is the important civil engineering department of the Navy, creator of the Seabees, officially known as the Bureau of Yards and Docks. Similarly, "Dirpacdock" signifies the office of the director in charge of Budocks activities in the Pacific Division and hence the head of the farflung operations of the Seabees in these areas. He is a relatively young man from his rank of rear admiral, and I want to write in more detail about him later.

There are many short forms, some curious indeed, but for all I know they may be more or less confidential. And this first report ought not to take chances with the censor, so let's get back to the safer territory of travel by surface.

Not that our means of travel was too monotonously safe. Had there been a daily newspaper published on board, headlines on one day would have read "Autos Smashed in Collision, 500 mi. at Sea", and then would have followed an account of the storm and the seas that came aboard to raise hob with our deckload.

When green water comes over the rail, wreckage is likely. Four cars were badly damaged. One fine new Packard was a particularly sorry sight. The seas left it lying partly on its side with hood flapping, fenders crumpled, radiator smashed and the rear of the body crushed in. Sea water had immersed and surged over engine and running gear until whatever had escaped the bending and smashing was pitted by the corrosive action of salt. Deckload is accepted only at owners risk—cars must be scarce in Hawaii!

Another unusual headline, if we had a newspaper to use it, would have been "Many Expectant Mothers on Passenger List". Believe it or not, these were also part of the deckload. Cows, 40 of them, in a shed along one side of the deck, were all due to calve soon, and two calves actually arrived en route. You'll understand the reason for this shipment when you remember how scarce fodder is in the Islands and that milk is costly in Honolulu.

How they weathered the storm without casualties I don't know. Their shelter could give no protection against sheets of water that the wind drove horizontally into their stalls, while seas surged across the deck to carry away their bedding and make them miserable indeed. Yet, next day, with fresh bedding, they ate as usual and lay down to chew cud contentedly as if they were quite at home.

The four men who travelled as passengers were quartered in the 8 x 10-ft. hospital. There was no MD aboard, but we did have a stretcher and quantities of medical supplies. Our situation was pure luxury compared to passenger quarters in light wooden "doghouses" on the decks of some of these vessels—insufferably stuffy at night and none too safe in bad weather.

The night of the worst storm, all four of us kept most of our clothes on. One learns to sleep in a braced position ready to grab overhead cleats when the transverse slant of the bunk caused by the ship's roll approaches the angle that will slide the bunkee off into space; it isn't the angle of repose! The upper bunk presents the hazard of a longer fall, but this is offset by a continual menace to the lower bunkee from chairs, table and duffle that frequently bounce in on him.

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Contractors can handle postwar program

(Continued from page 1)

F. W. Parrott, chairman of the contractors' group of the WPB Advisory Committee on Used Construction Equipment. The present shortage of trucks and tires will be remedied quickly as government requirements are reduced after the war, said Mr. Parrott, and the vast equipment manufacturing facilities now producing war machinery will be able to produce more peacetime construction equipment in 60 days than could be produced formerly in six months.

Mr. Parrott announced that the extensive surveys of available construction equipment are being made by the A.G.C. to be presented at the hearings scheduled for Feb. 29 on pending federal roadbuilding legislation.

Surplus equipment

Regarding the much discussed problem of the disposal of surplus government-owned construction equipment in this country after the war, the association passed a resolution advocating: (1) That none of it should be indiscriminately dumped on the open market; (2) It should be appraised before being offered for sale, sold at a fair price, with none being distributed gratis; (3) This surplus equipment should be offered for sale only to manufacturers, dealers and recognized distributors; and (4) Its distribution should be made by those governmental agencies which own or have control of the equipment.

Construction nearly finished

Less than $125,000,000 of wartime construction remains to be done in this country, asserted Maj. Gen. Eugene Reybold, Chief of Engineers, U. S. Army, with most of it scheduled for completion by April 1 and all of it expected to be finished by the end of June.

Our wartime construction program has moved swiftly through the phases of emergency construction at home, aggregating $11 billion, and the development of overseas bases and supply lines, said Gen. Reybold. It now is entering a third phase—"construction for invasion," he said. A certain amount of routine construction will continue in the form of maintenance, but new war construction in this country will show a steady decline, even from present levels, he added.

Gen. Reybold expressed appreciation on behalf of the Army for the aid given by the construction industry in contacting the type of men needed for overseas construction, and added that by April 1 every Engineer General Service Regiment, Special Service Regiment, and separate battalions both in this country and overseas will be reorganized and reequipped as an Engineering Construction Battalion. These battalions will have greatly increased equipment and corresponding increases in the number of ratings for skilled equipment operators, he said.

Postwar construction

No rosy picture of construction conditions after the war was portrayed by Oscar B. Coblentz, president of the organization, but he expressed the belief that experiences gained from construction of defense and war facilities, should fortify the construction industry for whatever may develop in the postwar era.

At least $12 billion of construction, of all types, will be needed for the first year after the war, Mr. Coblentz asserted, and even this will not permit more than one-fourth of the persons released from the armed services and war industries to be absorbed by the construction industry. Within a few years after the war, this construction program must be increased to $20 billion annually if full employment is to be realized, he added.

There is much talk that cities, counties and states should finance their public works programs through local taxation in lieu of federal financing, continued Mr. Coblentz, but such a move will materially increase local taxes and can not be considered practical unless federal taxes are reduced accordingly.

Contract renegotiation

The controversial question of contract renegotiation was discussed in open meeting, but not as intensively as at the meeting last June (*ENR*, July 8, p. 107). Apparently this was due to the contractors having become more familiar with renegotiation procedures and thus better able to cope with them. While it still remains a vital question for some contractors, most of the larger war contracts either have been, or are being, renegotiated.

In leading the discussion on renegotiation, H. E. Foreman, managing director of the A.G.C., advised that an amendment to pending federal finance legislation has been adopted by the Senate which permits construction contracts, let as the result of competitive bidding, to be exempt from renegotiation. However, warned Mr. Foreman, the definition of "competitive bidding" contained in this amendment must be clarified before it can be made workable. Although construction contracts are being awarded after informal but effective competition, they are not being let strictly as the result of competitive bidding, he said.

Contractors now facing renegotiation of war contracts were warned by Mr. Coblentz to back up their cold statistics on job costs, profits and losses with detailed description of the work involved in order to present a true picture of the

Key men of the construction industry in attendance at the A.G.C. convention in Chicago last week were these five men. From left to right: H. E. Foreman, managing director, A.G.C.; Wm. Muirhead, Durham, N. C., new president of the association; Thomas H. MacDonald, commissioner, Public Roads Administration, Washington, D. C.; Oscar B. Coblentz, Baltimore, Md., retiring president; and Hal H. Hale, recently appointed executive secretary of the A.A.S.H.O.

construction performed to their renegotiation boards. He recommended the presentation of convincing arguments in such cases as an aid in securing equitable renegotiation.

Wage adjustment progress

That the Wage Adjustment Board in construction should define clearly the geographical area and type of construction to which each of its decisions shall apply was contained in a resolution adopted by the assemblage. Such procedure would reduce the confusion arising from disputes between employers and employees in the construction industry, as well as the uncertainty of complying with decisions not now specific as to geographical area or type of construction affected.

Following considerable discussion in open meeting as to whether tripartite panel hearings in wage rate dispute cases should be held in the area of the dispute or in Washington, D. C., it was decided not to protect the present procedure of holding them in Washington, D. C., although members from the Southwest strongly advocated holding such meetings in the area of the dispute.

It was the consensus of the meeting that certain types of construction employees should not be considered under the jurisdiction of the Wage Adjustment Board. These employees include: (1) technical engineers, surveyors and instrument men employed on layout work at the construction site, (2) truck drivers employed by suppliers or producers delivering materials and supplies to the site, and (3) any shop mechanic fabricating materials for installation by his employer. The jurisdiction of the Wage Adjustment Board is now defined as covering "mechanics and laborers in the building and construction industry employed directly upon the site of the work."

Civilian construction outlook

Despite the adverse statement made recently by Donald M. Nelson, chairman of WPB that no immediate relaxation may be expected of restrictions on civilian construction, Mr. Foreman holds an optimistic view regarding the early, partial relaxation of these restrictions. This move may come sooner than expected since much conscientious study is being given it by a number of WPB officials, Mr. Foreman told those present.

A large number of suggestions relating to ways and means of relaxing construction in an orderly fashion, primarily with regard to the L-41 construction order, already have been channeled to the WPB through the Construction Industry Committee established last September under the auspices of the U. S. Chamber of Commerce. This committee is composed of four members of A.G.C., 18 other representatives of the construction industry and 13 representatives of organized labor.

Certain improvements in the civilian construction situation already have been made, reported Mr. Foreman. Revision of the WPB construction limitation order L-41, last November, has made it more easily understood. Also it now permits omission of the cost of second-hand materials and labor for installing material when calculating the cost of a project. Furthermore, field offices of the WPB may now handle applications up to $25,000 without referring to Washington, D. C.

Restrictions on steel and copper are becoming a little easier, said Mr. Foreman, but lumber is still the bottleneck problem. Its scarcity is more pronounced now than it was six months ago. Lumber and manpower shortages will continue for some time to be chief consideration upon which any general relaxation of construction regulations will hinge, he said.

Self-liquidating projects

Financing of certain public works through collection of use taxes from those benefiting from such improvements may be extended into the post-war era, according to Ernest M. Fisher, deputy manager, American Bankers Association. The success of such self-liquidating, prewar projects as the Pennsylvania Turnpike, toll bridges in the San Francisco area, and numerous others would seem to justify careful exploration on the part of government of the public needs for the construction of facilities which might be financed in this manner, he said.

Ample funds will be available for private construction after the war, contended Mr. Fisher. With bank deposits approaching the $100 billion mark; with over $20 billion of money in circulation; with life insurance company reserves at unprecedented levels; and with building and loan companies embarrassed with a surplus of investable funds, not to mention the funds in the hands of individuals which will be seeking an investment outlet, there should be little difficulty of securing all the mortgage credit necessary for any reasonable demands of private construction after the war, he said.

It is extremely essential that we make plans immediately for the transition period between war and peace and for the expanding economy that must be produced after the war, and in no field is this need for effective preparation more urgent than in the broad area of American housing, said John B. Blandford, Jr., administrator, National Housing Agency. The initial period of peace will see a need of from 1,000,000 to 2,000,000 new houses for returning married service men and other families living in crowded quarters during the war, said Mr. Blandford. To this, must be added an annual rate of 600,000 new houses to meet normal needs and replacements. These needs are quite apart from the accumulation of several million sub-standard dwelling units which are the real heart of the housing situation, he said.

In reviewing the emergency wartime housing program, Mr. Blandford asserted that we are well over the hump of housing the largest migration of labor in this nation's history. About 1,500,000 units of new or converted war housing have been completed and nearly 300,000 more are either under construction or programmed. Temporary family dwellings are being produced at an expenditure of less than 2,000 lb. of critical materials per unit as against more than 9,000 lb. for a pre-war permanent unit, said Mr. Blandford, and these temporary dwellings are being constructed at an average cost of $2,700 per unit as compared with $4,500 or more for a permanent dwelling.

The driving force for postwar private housing cannot be expected to come from Washington, said Mr. Blandford. Nor can it come from the board rooms of big corporations. It must spring from the communities themselves where the housing will be built, he added.

Market developments

In reporting on the development of markets for the construction industry's services both now and after the war, Fred I. Rowe, chairman of the Market Development Committee of the A.G.C., lashed out at the general apathy of many contractors to engage in promoting construction work. Large government contracts held by contractors during the past two or three years have made many of them too prosperous and too indifferent toward the promotion of new work, he said.

Contractors' bids on some of the relatively few contracts now being let are far in excess of engineers' estimates, asserted Mr. Rowe, and such practice should be corrected insofar as possible, in view of securing a greater volume of work. War production controls are apt to continue to some time after the war, he warned.

Contractors have no secret weapon with which to combat the potential threat of unemployment after the war, asserted Mr. Rowe, although some of the larger contractors have been help-

(*Continued on page* 11)

MEN Not AT WORK

As seen at the recent Moles Award Dinner

MAJ. GEN. T. A. TERRY, Army Second Service Command; REAR ADM. H. L. VICKERY, vice chairman, U. S. Maritime Commission; and E. A. PRENTIS, New York contractor, congratulate ARTHUR A. JOHNSON, English born New York contractor and civic leader, on being chosen for Moles award for outstanding achievement in construction. Award was made at a dinner in New York, Feb. 2, groundhog day.

MAJ. GEN. EUGENE REYBOLD, chief of engineers of the Army, talks construction equipment to HAM PENN, New York construction equipment dealer and former head of the used equipment branch of WPB.

IRVING V. A. HUIE, commissioner, Department of Public Works, City of New York, left; PETER F. CONNOLLY, New York contractor and CAPTAIN R. R. YATES (CEC) USN, public works officer at the Brooklyn Navy Yard, joined with the Moles in honoring Gen. Somervell and Arthur Johnson.

LT. GEN. BREHON B. SOMERVELL was given the Moles award for outstanding achievement in construction in 1943 at a dinner attended by 600 construction men.

TUNNELER ALF HJORT, chief engineer of Geo. H. Flinn Corp. wore a hard shirt instead of the more familiar hard hat on this occasion.

Construction work cut by Corps of Engineers

By retrenchments the War Department is saving $27 billion, according to statement Feb. 4 by Secretary of War Stimson. Considerable construction work included. This retrenchment was made possible, the Secretary said, because enemy threats to Alaska, the Panama Canal and continental United States have been largely dissipated.

Projects on which construction has been cut off, or on which action has been taken that affects construction are:

Service facilities along the highway to Alaska are being reduced in line with an anticipated reduction of traffic from 200,000 to 18,000 tons a month. Auxiliary supply routes to the northwestern part of the territory are not to be built. Construction of a reconsignment center at Edmonton, Alberta, has been abandoned and the facilities proposed for Prince Rupert have been greatly reduced.

Oil prospecting has been restricted in the Alaskan area, together with oil transportation and refining facilities for the Canol project. A road and pipe line from Fairbanks to Tanana on the Yukon River have been abandoned. The status of the abandoned projects was not announced.

The Corps of Engineers also stopped work on the part of the Inter-American Highway that it had undertaken to build (*ENR*, Oct. 14, p. 565).

Work was stopped on a "big gun seacoast fortification program" because the "German high seas fleet is no longer a threat and the Japs show no inclination to risk their naval forces far from their homes bases," and because bombers and warships now protect our shores.

Work has been halted on various fortifications, bases and other military projects in the Caribbean area, with removal of a "substantial part of the troops" to more important regions. Where facilities had to be completed, the statement says, the cheapest kind of construction was used.

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Virginia road builders affiliate with A.R.B.A.

Organization has been completed of the Virginia Road Builders' Association, as an affiliate of the American Road Builders' Association, according to Charles M. Upham, engineer-director of the national association.

"Formation of the new highway group in Virginia fills a need of long standing," Mr. Upham said. "In accordance with A.R.B.A. policies, the new association will cooperate in the establishment of adequate national and state highway programs."

The Virginia group's membership represents engineers, highway users, contractors, equipment dealers, highway officials, material dealers and other Virginians interested in good roads. Executive secretary will be A. J. Rayner, who for about 26 years has been engaged in various phases of highway building at home and abroad.

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For community facilities in war plant areas

On Feb. 10, President Roosevelt asked Congress to give the Federal Works Agency $150,000,000 to meet the growing need for community facilities in areas where war industries have caused big population increases.

He pointed out in a letter to Speaker Sam Rayburn that Congress has authorized expenditure of $500,000,000 for such facilities, but has actually appropriated only $350,000,000. That money, he said, has been almost completely spent for such items as schools, sewers, public works and services and other facilities to aid war industry communities.

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New Seine River course opened by final blast

The final step in the extensive drainage operations being undertaken near Atikokan, Ont., in connection with the Steep Rock iron mine, (*ENR*, Oct. 15, 1942, p. 522, Apr. 1, 1943, p. 455, and Aug. 12, p. 241), was taken Jan. 27 when two major blasts opened up the last two cuts of the revised route for the Seine River. One blast used four tons, and the other, fourteen tons of dynamite. Both were successful. Fourteen electrically driven pumps have now been operating for some time, pumping out Steep Rock Lake at the rate of 500,000,000 gal. per day. The lake level has already dropped 17 ft.

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Gen. Hannum is director of California resources

Brigadier General Warren Thomas Hannum, United States Army Engineers, who recently retired as army division engineer for states west of the Rockies, has been named California state director of natural resources by Governor Earl Warren. In the $6,000 a year cabinet post, General Hannum succeeds William H. Moore.

Mayo named engineer of Southern Pacific Ry.

E. E. Mayo, assistant chief engineer of the Southern Pacific Co. has been named chief engineer to succeed W. H. Kirkbride who retired in January, as reported in last week's issue. Mr. Mayo has been in railroad work since his graduation from the University of Oregon in 1907, at which time he entered the employ of the Pacific Railway and Navigation Co. in western Oregon, now part of the Southern Pacific system.

C. J. Astrue, who has been an assistant to the chief engineer of the Southern Pacific since 1937, succeeds Mr. Mayo as assistant chief engineer. He studied civil engineering at St. Mary's College, Oakland, Calif., before going to work for the Southern Pacific in 1906 as a draftsman. Mr. Astrue, in turn, is succeeded by R. C. Nissen, who has been with the Southern Pacific since 1925.

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Engineers head Canada's war disposal unit

War Assets Corporation Limited is an organization just inaugurated by the Canadian Government for the disposal of excess war materials and supplies, under the Department of Munitions and Supplies—although the company will function independently to a large extent as do other "crown companies" in Canada. President of the new body is J. B. Carswell, Scottish-Canadian engineer, who returned from retirement in France at the beginning of the war and has been serving Canada at Washington since the early days of the war. Previously, Mr. Carswell had operated the Carswell Construction Co. in Toronto, and was later vice president of the Burlington Steel Company of Hamilton. How M. Scott, another Scottish born Canadian engineer has been appointed general manager of W.A.C. At present Mr. Scott is director of ammunition filling with the Allied War Supplies Corporation, but previously had had wide construction experience.

By surface to Pearl

(*Continued from page 3*)

Nightly blackouts were faultless, not a pinpoint of light showing. Imagine feeling your way in total darkness (flashlights were tabu) along a slippery route over and between deckload, scurrying across exposed places between dashes of spray and trying to anticipate the uncertain rolling and tossing of the ship. Yet this we did every night, and a check of casualties when we docked revealed nothing worse than barked shins.

Seabee supply base

Pearl Harbor, of course, serves the Navy in many ways, but to the Seabees it is an ABCD or Advanced Base Construction Depot. As such it has been a vital cog in our recent machine-like advances in the islands of the Pacific, advances which every construction man knows go forward speedily only after an enormous amount of preparatory work. Indeed, the scope and extent of preparations bear about the same relation to spectacular front line advances as does the submerged part of an iceberg to that part that shows above water—say about 11 to 1. Without the support of the submerged portion, that part of the iceberg that brightly reflects the sunshine simply wouldn't be there.

A major naval supply base that supports offensive action in modern warfare must handle an amazing amount of materiel and equipment; its successful operation requires planning and executive ability of a high order. Such a base is a distribution depot for the almost unlimited range of products turned out by our war industries. For example, the equipment (exclusive of commissary) sent out with each construction battalion, if piled compactly to an average height of 10 ft., occupies an area of more than an acre and represents some 2,500 long tons. The long ton is used because of its convenient conversion into a 35 cu. ft. displacement of sea water.

But to make a long list of high-priority construction materials and equipment, with some huge quantity figure opposite each item, would give a very inadequate idea of the base from which such an organization as the Navy's Seabees is supplied. Materiel is essential, of course, but the secret of using it successfully is wholly a matter of personnel.

Consolidation of gains, on which additional island advances depend, comes about largely through the spirit and drive typical of our trained construction battalions. Too much cannot be said for the skill and ability with which these men are being organized and equipped. Since the men were selected for this work with a view to their long experience in the construction field, the training the Navy gives them is such as will aid in making their construction skill effective in this special service. Their function is to bring their knowledge and the necessary equipment right up to the front line and to be there the moment domination of an area by the enemy has been overcome.

A major supply base supporting such activity must be a reservoir from which can be drawn, and moved up quickly, every item of supplies needed to transform a more or less devastated area into a fully improved and equipped military stronghold consistent with American requirements for wharves, roads, airfields, water supply, communication system, barracks, bomb shelters, gun emplacements and many other facilities. At such a scene of action there are many difficulties not met on ordinary jobs. For example, the ordinarily simple stevedore job of unloading a vessel may here become quite complicated. There probably are no docking facilities. Moreover, because of the easy bombing target presented by ships unloading cargo, shipmasters may pull away for safety reasons even before unloading is completed.

Timing supply with attack

At Pearl, all the requirements of advance base construction have to be foreseen and provided for in consignments (both personnel and materiel) timed to arrive as our combat troops take an objective. Each battalion has a long list of standard equipment and special items are added when needed. Subdivisions are arranged so that equipment for half a battalion can be picked up quickly if desired.

Experience has made for many expedients and safeguards that make storage and reshipment operations smooth and sure. Let's look at just one minor item: In addition to the data on contents, weight, dimensions, destination (in code of course) and other information stenciled liberally over each packing case, there is a refinement in the placing of packing lists which could come only from experience. Instead of the usual envelope container, tacked most anywhere on the case, Seabee packing cases have, on both ends where protections is afforded by corner boards, an 8x10-in. piece of plywood or composition board firmly nailed on, bearing the stencil "Packing slip beneath".

Pearl Harbor today

But the ABCD, impressive as it is, constitutes only a part of the extensive development that is "Pearl Harbor" today. Just how many workers there are here I don't know—one doesn't ask questions about such matters in this environment. Whatever the number—it doesn't matter, the base is so large that it would be natural to compare it with industrial centers elsewhere. But in any such comparison one is immediately confronted with a fundamental difference that makes this great collection of workers unlike that at industrial plants on the mainland.

Hard work based on patriotism

This significant difference is the spirit permeating every department and manifest in every individual at this great base. A nucleus of the workers here had the war brought home to them and to their families in a most vivid and effective way. Perhaps it is because they saw the results of the infamous Jap raid that they are inspired to influence others and thereby to "leaven the whole lump" of workers.

Whatever the cause, there is no doubt about the purposeful attitude of men and women here, whether in uniform or not. One need only to see them at their tasks to sense their earnestness. I am the more impressed because I have recently visited war industries where there are as many or more workers. At Pearl there is a conscientious concern about the job in hand that is refreshing indeed. It sets a standard so far above the conditions under which war industries can be slowed for personal advantage, that it deserves prominent mention.

In the room where I sleep is a broken window sash—broken by Jap machine gun bullets and not yet repaired. This minor item is not typical. Two years have sufficed for a nearly complete clean-up of the Jap-inflicted scars. The more enduring effect of that raid—the one that will outlast the Japanese militarists—is that manifest in all these workers who are so earnestly and conscientiously going about their tasks here at Pearl.

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Los Angeles survey for sewage treatment

A survey of Los Angeles' antiquated sewage system with the object of submitting recommendations for the construction of sewage treatment plants which will end pollution of lengthy stretches of public beaches was started early in February by the sanitary engineering firm of Metcalf & Eddy of Boston. The survey was started at the invitation of Mayor Fletcher Bowron and members of the Los Angeles city council, and is expected to be completed within 90 days.

Lump-sum, not cost-plus for public construction

A bill "to replace the present cost-plus and other systems of contracting for public construction by a system of negotiated lump-sum contracts" has been introduced in the House and referred to the Committee on Expenditures in the Executive Departments. The bill, H. R. 4010, proposes "to substitute a simplified system of auditing and adjustment of fees for the formal process of renegotiation."

It also provides for appointment by the President of a ratifying committee of three engineers or architects, the majority of whom must approve a contract before it can become effective. Members would serve for six years, with compensation of $8,500 a year, plus some expenses. The chairman would be designated by the President. Persons could not serve who had any financial interest in a company seeking a contract.

Questionnaires would be sent to contractors by the awarding authority, which would use the data in determining "the contractor best fitted to undertake the work," selection of subcontractors by the general contractor, negotiation of a lump-sum fee by the awarding authority with the general contractor who in turn would negotiate with the subcontractors before final approval. Similar negotiation in advance for extra work, and auditing by the ratifying committee to determine cost of the work, before final payment could be made on any of it, with the total compensation, including that made on extra work, not to exceed the sum agreed upon in negotiation.

In selecting the general contractor and subcontractors consideration would be given to experience, average annual volume of work, average size of contracts, record for completion of contracts started, references, names of contractees and amount of the three largest contracts recently completed, list of operations similar to the project in question, present or past labor difficulties, details concerning organization personnel of supervisory staff, largest number of workmen over six months' period, number of large contracts handled at the same time, number and dollar volume of unfinished contracts on hand, with statement of over-all percentage of completion, together with "name and above qualifications of any proposed affiliate."

The awarding authority would submit to the ratifying committee the reasons for its selection of a contractor. The committee would then approve or disapprove the contract. It would also adjust any differences between the awarding authority and the contractor, and would "make final determination of the allowable profit" in case of dispute.

The proposed legislation was evolved by Frederic W. Lord of the Lord Electric Co. of New York.

. . .

Many New York postwar projects are approved

The New York State Postwar Public Works Planning Commission has approved applications from 22 communities involving 79 projects. The estimated construction cost is $29,607,019 and the state's share of the cost of the plans comprising one-half of the total planning cost, is $288,635. These allocations are in addition to those previously made.

Some of the larger projects are as follows: Suffolk County: County-wide sewer system, $10,700,000; Nassau County: Sewer system and disposal plants $8,072,000; Buffalo: New building for Grosvenor Library, $3,000,000. Replacing Ohio St. bridge, $742,000. Municipal incinerator and garage, $680,000; North Hempstead: Port Washington highway, $356,600; White Plains: Storm water drains, $255,000. Resurfacing pavements, $188,000.

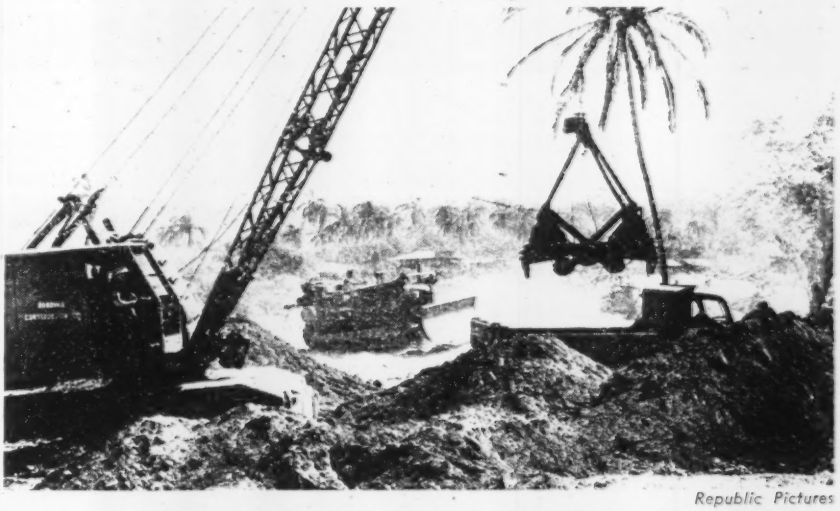
The Suffolk County Board of Supervisors appropriated $53,500 Feb. 14 as the county's share of the cost of preliminary surveys for the comprehensive post-war sewer system in fifteen of the county's areas.

Supreme Court upholds New York housing law

The constitutionality of the New York State law under which the Metropolitan Life Insurance Co. proposes to build a housing development called Stuyvesant Town in New York City, was upheld by recent action of the United States Supreme Court. The court denied a petition by property owners in the vicinity of the proposed project for a writ of certiorari after New York courts had upheld constitutionality of the state's redevelopment companies law.

The petition questioned that "the power of eminent domain is being exercised for a 'public use' when property is taken by a city and conveyed to a private corporation, admittedly created for private gain and not subject to regulation by law as to rents, profits, dividends and disposition of its property or franchises." It also questioned the legality of granting such power to a city for the purpose of taking private property to be transferred to a private corporation.

The city of New York and the Metropolitan Life Insurance Co., as respondents, contended that the case does not present a federal question and, further, cited the redevelopment companies law as specifically declaring that such rehabilitation "in accordance with official plans by redevelopment companies are 'public uses and purposes for which private property may be acquired for such corporations and partial tax exemption granted.'"



Republic Pictures

Construction of a Pacific base depicted in movies

A "still" from the set of the new movie "The Fighting Seabees" shows rush construction of a Pacific base before actual battle conditions forced replacement of contractor forces with the Navy's construction men. The picture has a love interest, of course, for increased public appeal, but in filming had the cooperation of the Navy's Bureau of Yards and Docks of which the Seabees are a part. Leads are played by John Wayne, Susan Hayward and Dennis O'Keefe, well known to all movie "fans".

Officers and Speakers . . .

American Road Builders' Meeting

Held at Chicago on Feb. 1-3

For report of the meeting see **ENR Feb. 10, p. 165**

Kaufmann & Fabry photo

Officials of the A.R.B.A., all reelected for the forthcoming year include (left to right) Chas. W. Smith, Pensacola, Fla.; R. W. Gamble, Milwaukee, Wis.; R. B. Traver, Syracuse, N. Y., and Carl W. Brown, Jefferson City, Mo., president of the association.

Horatio S. Mattimore, recipient of the George S. Bartlett award, received special recognition for outstanding research work in highway materials.

Past president of A.R.B.A., Hal G. Sours, highway director of Ohio, analyzed questions in connection with the disposal of construction equipment following the war.

Kaufmann & Fabry photo

Well received, and timely talks were given at the A.R.B.A. meeting, on America's postwar roadbuilding, by Congressman J. W. Robinson of Utah (left) and on battle experiences at Guadalcanal, by Col. Don S. Knowlton of the U. S. Marines.

Col. Wm. N. Carey, chief engineer of the Federal Works Agency, deplored the inadequacy of this country's public postwar construction program.

Disposal of surplus construction equipment in this country after the war may be relatively simple, said Lt. Col. E. R. Needles, U. S. Corps of Engineers, since most of it may be overseas by then.

Contractors can handle postwar program

(Continued from page 54)

develop private construction programs. In view of the present manpower shortage in the lumber producing industry, he suggested that contractors might very well explore the possibility of entering this field. Although several contractors now are engaged in the maintenance of large manufacturing plants engaged in war work, this field has by no means been exhausted, he said.

A resolution was adopted by the conference strongly urging Congress and the President to approve legislation to provide a postwar highway construction program along lines recommended by the American Association of State Highway Officials which asks $1 billion in federal funds annually for the first three postwar years for national roads.

Federal grants for those public improvements having only local value were protected in another resolution adopted at the meeting. It contends that such indiscriminate giving is breaking down the American system of local self-government.

Past presidents honored

Although the meeting celebrated the 25th anniversary of the founding of the A.G.C., it was conducted primarily as a meeting of the governing and advisory boards along the lines adopted at the beginning of the war. At an anniversary dinner on Feb. 8, which was attended by 291 board members, chapter secretaries and guests, Harold W. Richardson, western editor of *Engineering News-Record* acted as toastmaster and paid tribute to the organization's past presidents. Brief talks were given by the nine past presidents attending the banquet.

Awards and election

Presentation of awards given annually for meritorious achievement were made to the following contractors at the closing session: Shackelford trophy for the building construction division, to the Woermann Construction Co., St. Louis; Swenson trophy for heavy construction to Wm. H. Ellis & Son Co., East Boston, Mass.; Zachry trophy for highway construction to the Potomac Construction Co., Martinsburg, W. Va. The Cashman trophy, given annually for increasing membership was awarded to W. P. Roscoe, Billings, Mont., for his activities in promoting the newly formed chapter known as the South Dakota Highway Industries.

William Muirhead, Durham, N. C., is the new president of A.G.C., succeeding Oscar B. Coblentz, Baltimore, Md. Harry A. Dick of Portland, Ore., was elected vice president and E. M. Rust, Washington, D. C., was re-elected secretary-treasurer. New directors, elected for 3-yr. terms are: Dan J. Cavanaugh, of Twin Falls, Idaho; Ford J. Twaits, Los Angeles, Calif.; C. B. Berry, Denver, Colo.; J. Rutledge Hill and Geo. H. Murch, of St. Louis, Mo.; A. A. McCree, St. Paul, Minn.; Robert E. O'Connor, Ft. Wayne, Ind.; Thos. B. Carmichael, Akron, Ohio; George M. Sady, Louisville, Ky.; Ivy H. Smith, Jacksonville, Fla.; Henry E. Baton, Philadelphia, Pa., and Roy B. Rendle, East Boston, Mass. S. F. Fuller of Pittsburgh, Pa. was elected to fill the unexpired term of the late C. E. Lott of that city.

Harry A. Dick

JOBS OF THE WEEK

DWELLINGS, Port Arthur, Tex.

Port Arthur Housing Co., Houston, Tex., awarded a contract for 174 dwellings, including water, sewer, gas, electric lines and facilities, to E. Lee Bond, Houston, Tex. The estimated cost is $740,000. Hedrick & Lindsley, Inc., Houston, Tex., is the architect.

AIRPORT, Natchez, Miss.

D. W. Winkelman Co., Syracuse, N. Y., has been awarded a contract to build an airport by the U. S. Engineers, Mobile, Ala., at an estimated cost of $1,000,000. CAA will finance.

HOSPITAL, Oakland, Calif.

Cahill Brothers, San Francisco, Calif., were the lowest bidders on 1 and 2-story, reinforced concrete addition to Permanente Foundation Hospital, Oakland, at $531,883. Birge and David B. Clark, Palo Alto, are the architects. The hospital is for the H. J. Kaiser Co.

AIRPORT, El Centro, Calif.

Bureau of Yards & Docks, Navy Dept., Washington, D. C., received the lowest bid for grading, paving runways and parking areas, Marine Corps Air Station, from Ferry & Polk, Los Angeles, Calif., at $1,768,564.

EARTHWORK AND STRUCTURES, California

J. F. Shea Co., Los Angeles, Calif., was the lowest bidder when the Bureau of Reclamation, Yuma, Ariz., opened bids for earthwork, concrete lining and structures on Coachella Canal, All American Canal System, Boulder Canyon Project, at $1,660,681.

BLAST FURNACE, Rusk, Tex.

Defense Plant Corp., Washington, D. C., awarded a contract for the design and construction of an iron ore blast furnace plant to McCrossin Engineering Co., New York, N. Y., and Birmingham, Ala. The estimated cost is $2,500,000.

COMMUNICATIONS SCHOOL, Camp Joseph H. Pendleton, Calif.

Bureau of Yards & Docks, Navy Department, Washington, D. C., awarded a contract to construct a joint amphibious communications school to Haddock Engineers, Ltd., Oceanside, Calif., at $1,746,651.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 11.

Two large new projects for northern Ontario

Marathon Paper Mills of Canada, Ltd., a Wisconsin-owned company, has announced plans to proceed this year with the first stage of a projected $10,000,000 development on the north shore of Lake Superior where a paper mill will be built to use wood from the company's timber limits in the Pick River basin. The first stage is estimated to cost $1,500,000 and will consist of a bleached sulphite (kraft) pulp mill only. Later it is planned to produce paper as well.

The Ontario Hydro Electric Power Commission has called for bids on a new turbine for the Alexander Landing power plant on the Nipigon River as part of an extension to the plant, which will cost half a million dollars. This increase will bring the capacity of the plant up to 70,000 h.p. This new unit will use part of the water now being diverted from the Churchill River watershed by the Ogoki diversion works, recently put into service (*ENR* July 15, 1943, p. 158).

Construction Communiques

Engineering news from the battlefronts

The Marshalls—War plants producing landing craft and their component parts for the Navy are on the offensive today, Rear Admiral Edward L. Cochrane, USN, Chief of the Bureau of Ships, U. S. Navy, has declared in commenting on the invasion of the Marshall Islands.

"Our fighting men who today are storming the beaches of the Marshall Islands are being backed by the mightiest sea force ever assembled in the history of the world," said Admiral Cochrane.

"The importance of keeping a steady flow of landing craft and their spare parts going to the Navy is underscored by the action at the Marshalls. Important as that is, it is only one of many engagements yet to take place. The cost in men and landing craft will increase proportionately as we push forward to the inner defense of the enemy."

While American troops and marines were driving the Japs out Seabees and Engineers were quickly pushing bulldozers over the ruins of the Jap airfield and fortifications on Roi and Namur, and getting ready to build an airdrome and naval base for our victorious forces so that they will lose no time in going on to further triumphs in that theater of war.

South Pacific—Lt. Comdr. Robert Ryan, former Ventura County, Calif., engineer and now with the Seabees in the South Pacific, was awarded the Legion of Merit Medal on his recent 50th birthday.

The presentation was made on an airfield which had been wrested from the Japs only a few days before. His citation stated that the award was made for building an air base in record time under enemy bombing, and for a reconnaissance trip he had made.

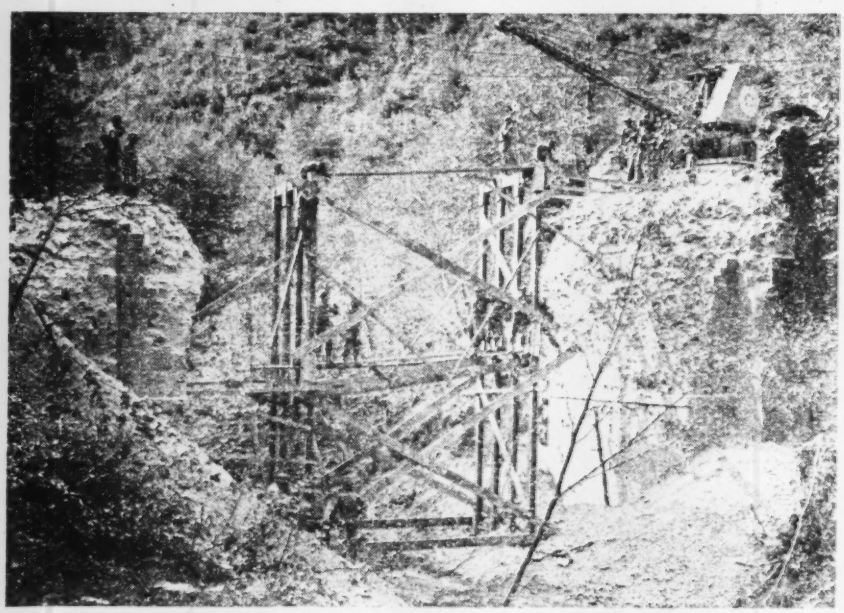
New Guinea—To illustrate the part engineers play in actual combat, Maj. Gen. E. Reybold, Chief of Engineers, recently gave this account: "Around Oro Bay on New Guinea the Japanese troops burrowed into the ground so deep that it was difficult to get them out. Finally our troops used bulldozers. They lifted the blades so that they acted as a shield from rifle bullets. Then our men drove the big machines up close to the holes and tossed in grenades, and thus cleaned out those enemy nests."

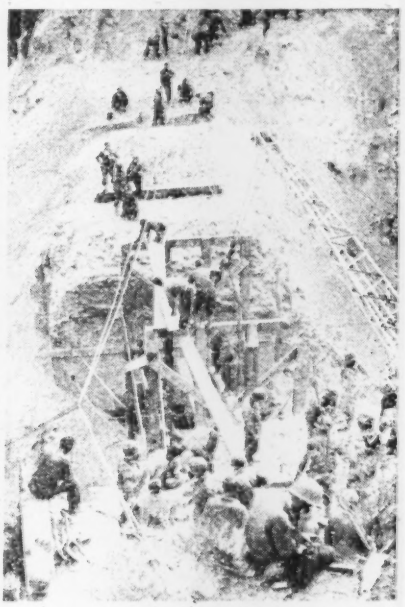
General Reybold also called attention to the use of bulldozers for cutting ramps through embankments in landing operations, and to their use as "points" for infantry columns moving through the jungle. To save the drivers from Japanese snipers, he said, "The bulldozer operator has been protected by armor and the machine may now be classified as a combat weapon."

Speaking at a meeting of the Philadelphia chapter of the American Society of Military Engineers, General Reybold said:

"The Corps of Engineers never has had, and still does not have, enough heavy construction equipment with which to build roads, airfields, docks and bases at the war front. Requirements for 1944 are 50 percent greater than for last year, and the allies as well as the United States are dependent on this country for production of such equipment. The rate of our advance depends largely upon the speed with which we are able to build."

General Reybold pointed out that once an airfield is made, roads have to be built to it, and said that hundreds of miles of military roads have been built around one occupied area in New Guinea alone since its capture by allied forces last spring.





U. S. Signal Corps photo.

Engineers replace a bridge dynamited by the Germans

The Corps of Engineers has coined the term "work-power" to characterize Engineer activities in theaters of operation, meaning a combination of elbow grease and construction machinery "work-power". It is seen in action in these views of a bridging operation near Acerno, Italy.

It was easy for the Germans to destroy the masonry arch, but they couldn't or didn't damage the abutments which left the Engineers a good platform from which to operate their truck-mounted crane. This piece of equipment quickly set up two pre-framed timber bents, which by the addition of two panels of longitudinal bracing became a self-supporting tower. Three spans of beams assembled by hand then provided the support for the roadway. In the meantime pick and shovel "work" widened the approaches, and supplies were soon rolling forward to the fighting front.

OBITUARY

Charles M. Mapes, 64, a principal industrial specialist of the War production Board's Facilities Bureau, died in Washington, D. C., Feb. 5. A graduate of the Engineering School of Columbia University, Mr. Mapes served the City of New York for many years as an engineering expert and consultant on street development projects.

H. H. Zeigler, 81, engineer and contractor of Junction City, Kan., died Feb. 2. At one time he was a member of a construction firm which had contracts for work in many sections of the country, and he was well known in contracting circles throughout the middle west.

Earle Nelson Parker, 63, district engineer of the Georgia highway department for many years, died at Gainesville, Feb. 2. He was born in Pittsfield, Mass. He had been connected with the highway department since 1920.

Lawrence Griffiths, 75, former city engineer of Yonkers, N. Y., died in Clearwater, Fla., Feb. 8.

Charles C. Muse, 76, at one time city engineer of High Point, N. C., died Feb. 2.

James W. Beaugrand, 68, city engineer of Racine, Wis., since 1922, died Jan. 31. He had served 51 years in the city engineering department, starting on May 1, 1892, as a rodman.

Frank Ringer, 74, chief engineer of the Missouri-Kansas-Texas railroad, died in St. Louis, Mo., Feb. 6. Mr. Ringer received his engineering education at the University of Kansas, having been graduated in 1893. He entered the service of the Katy at Parson, Kan., in May, 1894, starting as a level man. He was made assistant chief engineer in St. Louis in 1911, and 1917 became chief engineer of the system, with offices in Dallas, Tex.

William H. Breithaupt, 87, a pioneer civil engineer in the Kitchener district of Ontario, died Jan. 26. A graduate of Rensselaer Polytechnic Institute, Mr. Breithaupt was one of the first proponents of a conservation scheme for the Grand River Valley, in which he lived.

Roland Norcross Cutter, 75, for 43 years in the highway division of the Boston public works department until his retirement in 1934, died at Boston, Jan. 28. He was a graduate of Massachusetts Institute of Technology, in 1889, and in his early career was engaged in civil engineering for the Northern Pacific Railway in Montana.

William J. Esser, 67, deputy commissioner of public works, who had a long career in public service in Milwaukee, Wis., died Jan. 31.

P. Stephen O'Brien, president and treasurer of Denis O'Brien and Sons, Inc., Hartford, Conn., builders, died Feb. 1. He was active in the building construction field for many years.

John Sears, 65, district engineer at Port Hope, Ont., for the provincial department of highways, died Jan. 28. A graduate of Queen's University, Kingston, Mr. Sears had spent most of his career with the highway department.

Chester De Witt Mann, Sr., 56, died recently at Kansas City, Mo. He was district bridge engineer for the Public Roads Administration in Kansas City. Prior to that he was chief bridge engineer for the Missouri state highway department for 12 years.

William Mahan, 77, veteran engineering executive of the Wheeling & Lake Erie railroad, died Jan. 11, at Canton, Ohio. He had been associated with the railroad's engineering division 60 years. He was evaluation engineer with headquarters in Cleveland. He was best known for his work in the construction of the railroad's coal dumper dock at Huron, Ohio, in 1936.

CONTRACTS AND CAPITAL

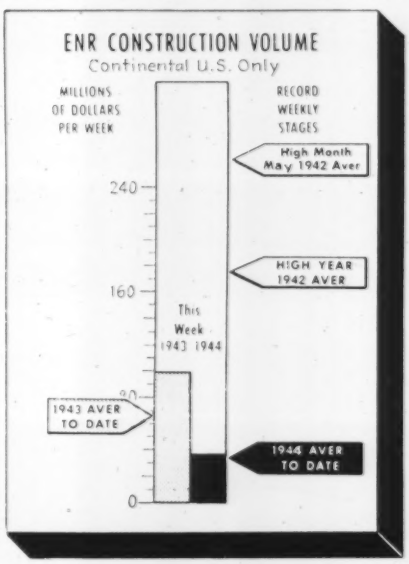
CIVIL ENGINEERING construction volume in continental U. S. totals $37,043,000 for the week. This volume, not including the construction by military engineers abroad, American contracts outside the country, and shipbuilding, is 60 percent higher than in the preceding week, but is 62 percent below the total for the corresponding 1943 week.

Public construction is up 84 percent compared with last week, but declines 63 percent from last year. Private work is 46 and 57 percent lower, respectively, than a week ago and a year ago.

The current week's construction brings 1944 volume to $252,235,000 for the seven weeks of the year, a decrease of 47 percent from the $478,422,000 reported for the corresponding 1943 period. Private construction, $50,272,000, is 36 percent higher than a year ago, but public work, $201,963,000, is 54 percent lower as a result of the 23 percent decline in state and municipal construction and the 55 percent drop in federal volume.

In the classified construction groups, gains over last week are in waterworks, bridges, and unclassified construction. Increases over the 1943 week are in waterworks and industrial buildings.

New capital for construction purposes for the week totals $2,750,000, and is made up entirely of state and municipal bond sales. New construction financing for 1944 to date totals $155,824,000, and compares with $114,667,000 for the corresponding seven-week period in 1943.



CONTRACTS

Continental U. S. Only
(Thousand of Dollars)

	Week Ending Feb. 18 1943	Feb. 10 1944	Feb. 17 1944
Federal	$91,801	$16,939	$33,531
State & Municipal	1,674	1,969	1,219
Total public	$93,475	$18,908	$34,750
Total private	5,386	4,243	2,293
TOTAL	$98,861	$23,151	$37,043
Cumulative 1944 (7 weeks)			$252,235
1943 (7 weeks)			$478,422

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	1943 7 weeks	Cumulative 1944 7 weeks
NON-FEDERAL	$14,667	$64,992
Corp. Securities	....	47,176
State & Mun.	13,167	12,241
RFC Loans	1,500	5,375
FEDERAL	....	$90,832
TOTAL CAPITAL	$14,667	$155,824

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost	Feb. '44	265.65	141.83
Building Cost	Feb. '44	232.63	125.43
Volume	Jan. '44	114.	50.

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

WATER SUPPLY

PROPOSED WORK

Colo., Trinidad—12,976 lin. ft. new 15 in. water line and relocating 9,000 ft. and miscellaneous work. $115,000. Black & Veatch, 4706 Bway., Kansas City, Mo., consult. engrs.

Conn., Bristol—Bd. Water Comrs., City Hall, watermain from Old March Pond to Reservoir 1. $35,000.

Ia., Burlington—City, M. A. Conrad, mayor, rein.-con. settling basin, $65,000. H. A. Vollmer, Burlington, engr.

†Md., Edgewood—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., making plans water supply exten. at Edgewood Arsenal.

Minn., New Ulm—Pub. Utility Comn., J. W. Ulrich, supt., installing water softening equip., incl. turbine unit, etc., in filtration plant, laying main from filtration plant to power plant. $40,000. R. D. Thomas & Associates, 1200 2 Ave. S., Minneapolis, engrs.

Miss., Jackson—City, W. A. Scott, mayor, bids soon duplicate watermains and water intake facilities. $200,000. CD 1/4—ENR 1/6.

Mo., Marshall—J. W. Sparks, mayor, water sys. enlargement. Black & Veatch, 4706 Bway., Kansas City, Mo., engrs.

Mont., Helena—V. N. Kessler, city clk., water well and pump. plant. $92,000.

Neb., Omaha—Metropolitan Utilities Dist. Bd., c/o W. Byrne, genl. mgr., 18 and Harney Sts., surveys WW imprvs., enlarging with concrete flumes Florence Municipal Waterworks. $150,000. Burns & McDonnell, 107 W. Linwood Blvd., Kansas City, Mo., consult. engrs. CD 2/1—ENR 2/3.

Okla., McAlester—V. Hubert Smith, mayor, City Hall, water facilities, imprvs., $236,451. Applied for FWA funds. Collins Eng. Co., McAlester, engrs.

†Tenn., Murfreesboro—City exten., imprv. water sys. $90,000 **FWA** gr. CD 1/18—ENR 1/20.

Tex., Amarillo—A. P. Hancock, city mgr., City Hall, water facilities, $85,000. Applied for FWA funds. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

†West Virginia—U. S. Eng., Martinsburg, 1 m.g. water treatment plant, Berkeley Co. W. A. Goff, Broad St. Sta. Bldg., Phila., Pa., engrs.

Ont., Almonte—Municipality, R. A. Jamieson, clk., WW exten.

Ont., Essex—Water supply imprvs. $30,000. P. Utilities Comn., Essex, engr.

Que., Lachine—Water services in new streets. $20,000. A. J. Deslauriers, City Hall, engr.

BIDS ASKED

Bids Asked February 24

Tex., Amarillo—A. P. Hancock, city mgr., City Hall, water wells, $30,000. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

LOW BIDDERS

†Ala., Phenix—City Water Bd., City Hall, Feb. 4, WW imprvs. from Sullivan, Long & Hagerty, Bessemer, **$45,100.** CD 1/27—ENR 12/23.

†Ga., Hinesville—City, J. H. Eve, Jr., clk., Feb. 4, water sys. addn., from Deconynk & McDaniel, P. O. Box 1265, Columbia, S. C., **$42,301. FWA.** CD 1/25—ENR 1/27.

†Va., Norfolk—Walter H. Taylor, 3rd, dir. P. Wks., City Hall, Feb. 4, water distr. line from Moore's Bridge pump. sta., here, to Virginia Beach, Va. 44-347, from A. Stanley Mundy & Co., 52 Main St., Woodbridge, N. J., **$368,542. FWA.** CD 1/26—ENR 10/28.

CONTRACTS AWARDED

†N. C., Greenville—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., water, electric, sewage and gasoline storage sys., Greenville Outlying Field, NOY 8572, to C. L. Russ, Greenville, **$148,630.**

†N. Y., Brooklyn—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., fire tanks, Naval Air Station, Floyd Bennett Field, NOY 7634, to Caye Constr. Co., Inc., 356 Fulton St., **$23,800.**

†N. Y., New York—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., design and construction oil contaminated ballast water disposal plant, New York Harbor, NOY 8822, to Standard Oil Co. of N. J., 26 Bway.

†Tex., Dallas—City, Contr. 4, completion 36 in. watermain between Bachman Filtration Plant and Oak Cliff, Tex. 41-651, to W. G. Cullum & Co., and F. L. Dalton & Co., Great National Life Bldg., **$293,000.** Est. $313,000. **FWA.** Myers & Noyes, Tower Petroleum Bldg., engrs. Bids 2/9. CD 1/25—ENR 1/27.

Utah, Salt Lake City—City, W. D. Beers, city engr., City and County Bldg., purchasing 16 in. c.i. pipe for culinary water line to defense industries in northwest part of city, to United States Pipe & Foundry Co., 122 S. Michigan Blvd., Chicago, Ill., **$24,820.** CD 1/12—ENR 1/20.

Wash., Bremerton—30,000 ft. c.i. pipe for watermain replacements, to H. G. Purcell Co., Colman Bldg., Seattle, Zone 4, **$55,898.** CD 5/12—ENR 5/20.

Que., Lauzon—Filtration plant, to J. Dorval, 181 St. Joseph St., **$109,447.**

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over.
ENR Engineering News-Record
CD Engineering News-Record Construction Daily
A-E-M Architect-Engineer-Management type of contract

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Unclassified
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Note: To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Idaho, Coeur d'Alene—City, sewer serving new housing development. $34,078. Seeking FWA funds.

Ind., Noblesville—Bd. P. Wks., E. E. Fertig, mayor, chn., Louise Decker, secy., City Hall, preliminary plans sewage treatment plant. $75,000. Henry Steeg & Associates, 809, 129 E. Market St. Bldg., Indianapolis, consult engrs. CD 8/31—ENR 9/2, under Postwar.

La., New Orleans—Sewerage & Water Bd., 526 Carondelet St., rejected bids, Contr. 146-S, furnishing, laying approx. 2,000 lin. ft. 15- to 24-in., rein.-con. sewers; 24,700 lin. ft. 8- to 15-in. plain concrete sewers and 9,600 lin. ft. 6 in. concrete sewer house connections. Will readvertise. CD 2/8—ENR 2/10 under LB.

★**Mich., Mt. Clemens**—Warren Twp., c/o W. C. Harper, drain comr. Macomb Co., Mount Clemens, making plans for FWA application, 8½ Mile Road Relief Sewer, Warren Twp., East Detroit, and St. Clair Shores, $3,500,000.

†Mo., Newburg—Bids soon sewerage sys., disposal plant, etc. $100,000. **FWA.** Russell & Axon, 4903 Delmar Blvd., St. Louis, Zone 8, engrs. CD 10/15—ENR 10/21.

N. J., Little Falls—Town, Town Hall, sewage disposal plant. $50,000. R. D. Austin, Town Hall, engr.

†N. J., Newark—U. S. Eng., 120 Wall St., New York, 5, N. Y., drainage sys. at airport. $400,000.

S. D., Elkton—F. A. Buchholtz, city aud., sewage plant, sewer lines. $25,000. Perkins & McWayne, 322 Paulton Bldg., Sioux Falls, engrs.

★**Tex., Houston**—J. N. Edy, city mgr., City Hall, right of way easements, and purchase of sites for pump. station, sewerage pump. plant and sewer right of way. $827,280. Applied for FWA funds. J. G. Turney, City Hall, engr.

Tex., West University Place (Houston)—West University Place, A. Kerbow, mayor, West University Place, (Houston zone), 6 and 10 in. sanitary sewers. $25,000.

Ont., Belleville—Sewage disposal plant. $75,000-$100,000. Gore & Storrie, 1130 Bay St., Toronto, engrs. CD 9/28—ENR 9/30 under Postwar.

Ont., Clinton—M. T. Corless, town clk., sewage disposal sys., septic tank disposal plan. $30,000.

Que., Lachine—Sewers in new streets. $25,000. A. J. Deslauriers, City Hall, engr.

BIDS ASKED

Bids Asked February 23

†Md., Patuxent River (br. Wash., D. C.)—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., sewage plant, NOY 8521. CD 2/3—ENR 2/10.

Mich., Ann Arbor—F. C. Perry, city clk., sludge concentration tank at sewage treatment plant. $25,000.

Bids Asked February 24

†Va., Newport News—At office Federal Works Agency, 601 State Planters Bank Bldg., Richmond, Zone 19, sewerage facilities, 4 pump. units, approx. 7,000 ft. 12 to 27-in. vitr. clay or concrete pipe, 4,150 ft. 2- to 8-in. c.i. force main, Va. 44-264. $300,000. Plans deposit $5. Greeley & Hansen, 6 N. Michigan St., Chicago, Ill., engrs.

Bids Asked February 28

†Tex., Nederland—At office City Comptroller, City Hall, sanitary sewer facilities, Tex. 41-593 NA. $159,304. **FWA.** Plans deposit $15. Charles P. Smith, Orange, engr. CD 2/9.

Bids Asked March 1

†Colo., Lakewood—Lakewood Sanitation Dist., in High School, 146,000 lin. ft. sanitary sewer line. $370,000. **FWA.** Extended date. Prouty Bros. Engrg. Co., Mining Exchange Bldg., Denver, engrs. CD 1/28—ENR 2/3.

†Tex., Corpus Christi—Federal Works Agency, 702 Electric Bldg., Fort Worth, Contr. 2, sewer imprvs., Tex. 41-174F. Plans deposit $15. Meyers & Noyes, 2204 Tower Petroleum Bldg., Dallas, engrs.

CONTRACTS AWARDED

†Okla., Braggs—L. Potts, town clk., sanitary sewerage sys. and disposal plant, Okla., 34-141F, to P. P. Young, Rte. 3, St. Joseph, Mo., **$40,962.** Est. $75,000. **FWA.** Bids 2/9, awarded 2/10. CD 1/27—ENR 2/8.

Tenn., Memphis—City, 48x80 ft., brick, concrete incinerator plant, Scott and McAdoo Sts., to Dunn-Smart, Millington, **$42,681.** Est. $100,000. CD 2/8—ENR 2/10, under LB.